2009

Test 1961: John Deere 5095M Diesel

Nebraska Tractor Test Laboratory

NEBRASKA TRACTOR TEST 1961
JOHN DEERE 5095M DIESEL
16 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP *(kW)*	Crank shaft speed rpm	Gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—566 rpm)					
80.34 *(59.91)*	2200	5.19 *(19.63)*	0.454 *(0.276)*	15.49 *(3.05)*	
Standard Power Take-off Speed(540 rpm)					
83.03 *(61.91)*	2100	5.11 *(19.33)*	0.433 *(0.263)*	16.26 *(3.20)*	
Maximum Power (1 hour)					
84.42 *(62.95)*	1950	4.97 *(18.81)*	0.414 *(0.252)*	16.99 *(3.35)*	
VARYING POWER AND FUEL CONSUMPTION					
80.34 *(59.91)*	2200	5.19 *(19.63)*	0.454 *(0.276)*	15.49 *(3.05)*	Air temperature
71.19 *(53.09)*	2292	4.92 *(18.64)*	0.487 *(0.296)*	14.46 *(2.85)*	75°F *(24°C)*
54.05 *(40.31)*	2321	4.19 *(15.84)*	0.545 *(0.331)*	12.92 *(2.54)*	Relative humidity
36.43 *(27.16)*	2346	3.17 *(11.99)*	0.612 *(0.372)*	11.50 *(2.26)*	35%
18.41 *(13.72)*	2371	2.28 *(8.64)*	0.873 *(0.531)*	8.06 *(1.59)*	Barometer
0.61 *(0.46)*	2391	1.42 *(5.38)*	16.353 *(9.947)*	0.43 *(0.08)*	28.64"Hg *(96.99 kPa)*

Maximum torque - 250 lb.-ft. *(339 Nm)* at 1549 rpm
Maximum torque rise - 30.4%
Torque rise at 1800 rpm - 22%
Power increase at 1950 rpm - 5%

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive Engaged dB(A)	Front Wheel Drive Disengaged dB(A)
At no load in 7th(B3) gear	78.7	78.7
Transport in 16th (D4) gear		78.0
Bystander in 16th (D4) gear		83.2

TIRES AND WEIGHT

	Tested without ballast
Rear tires–No., size, ply & psi *(kPa)*	Two 18.4R30;**;12 *(85)*
Front tires–No., size, ply & psi *(kPa)*	Two 12.4R24;***;12 *(85)*
Height of drawbar	16.0 in *(405 mm)*
Static weight with operator– Rear	5305 lb *(2406 kg)*
– Front	3110 lb *(1411 kg)*
– Total	8415 lb *(3817 kg)*

Location of tests: Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska 68583-0832
Dates of tests: October 5 - 13, 2009

Manufacturer: John Deere Commercial Products Inc., 700 Horizon South Parkway, Grovetown Ga. USA, 30813

FUEL, OIL and TIME: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F *(15°/15°C)*** 0.8450 **Fuel weight** 7.036 lbs/gal *(0.843 kg/l)* **Oil SAE** 15W40 **API service classification** CJ-4 **Transmission and hydraulic lubricant** John Deere Hy-Gard fluid **Front axle lubricant** SAE 80W90 API GL-5 **Total time engine was operated** 11.5 hours

ENGINE: Make John Deere Diesel **Type** four cylinder vertical with turbocharger and air to air intercooler **Serial No.** *PE4045L078801* **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.19" x 5.00" *(106.5 mm x 127.0 mm)* **Compression ratio** 19.0 to 1 **Displacement** 276 cu in *(4525 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements and aspirator **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** one paper element **Fuel cooler** radiator for return fuel **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** one thermostat and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate: 36.0 - 39.6 lb/h *(16.3 - 18.0 kg/h)* **High idle:** 2325 - 2425 rpm **Turbo boost:** nominal 10.1 - 11.6 psi *(70 - 80 kPa)* as measured 10.8 psi *(75 kPa)*

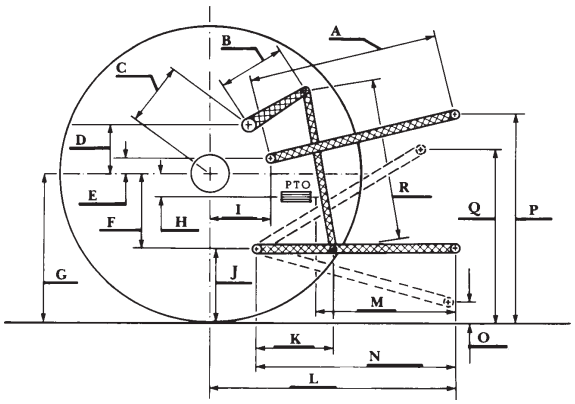
CHASSIS: Type front wheel assist **Serial No.** *LV5095M160244* **Tread width** rear 59.4" *(1508 mm)* to 71.4" *(1813 mm)* front 52.8" *(1342 mm)* to 77.0" *(1957 mm)* **Wheelbase** 85.7" *(2178 mm)* **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph *(km/h)*** first 1.19 *(1.91)* second 1.52 *(2.44)* third 1.83 *(2.95)* fourth 2.19 *(3.53)* fifth 2.86 *(4.61)* sixth 3.65 *(5.88)* seventh 4.43 *(7.13)* eighth 5.29 *(8.52)* ninth 7.02 *(11.29)* tenth 8.95 *(14.41)* eleventh 10.84 *(17.44)* twelfth 10.85 *(17.46)* thirteenth 12.97 *(20.88)* fourteenth 13.84 *(22.27)* fifteenth 16.77 *(26.99)* sixteenth 20.05 *(32.27)* reverse 1.30 *(2.10)*, 1.67 *(2.69)*, 2.02 *(3.25)*, 2.42 *(3.89)*, 3.16 *(5.08)*, 4.03 *(6.48)*, 4.88 *(7.85)*, 5.83 *(9.39)*, 7.73 *(12.44)*, 9.87 *(15.88)*, 11.94 *(19.22)*, 11.96 *(19.25)*, 14.30 *(23.01)*, 15.25 *(24.54)*, 18.49 *(29.75)*, 22.10 *(35.56)*

HYDRAULIC PERFORMANCE

CATEGORY: II		
Quick Attach: None		
OECD Static test		
Maximum force exerted through whole range:	3951 lbs	*(17.6 kN)* (50 mm cylinders)
	4793 lbs	*(21.3 kN)* (56 mm cylinders)
i) Sustained pressure of the open relief valve:	2943 psi	*(203 bar)*
ii) Pump delivery rate at minimum pressure and rated engine speed:	19.7 GPM	*(74.6 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	19.0 GPM	*(71.9 l/min)*
Delivery pressure:	2759 psi	*(190 bar)*
Power:	30.6. HP	*(22.8 kW)*

HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	*mm*
A	25.6	*650*
B	12.6	*320*
C	17.7	*449*
D	15.0	*380*
E	14.8	*375*
F	8.8	*223*
G	29.3	*745*
H	0.2	*4*
I	15.4	*390*
J	20.5	*522*
K	17.5	*444*
L	41.7	*1060*
M	23.0	*585*
N	33.1	*840*
O	7.8	*197*
P	47.5	*1207*
Q	33.9	*861*
R	28.1	*715*



Clutch wet disc hydraulically actuated by foot pedal **Brakes** wet disc hydraulically actuated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2100 engine rpm or 1000 rpm at 2103 engine rpm, Economy PTO 540 rpm at 1645 engine rpm **Unladen tractor mass** 8240 lb *(3738 kg)*

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 129°F *(54°C)*.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1961,** December 18, 2009.

Roger M. Hoy
Director

M.F. Kocher
V.I. Adamchuk
J.A. Smith
Board of Tractor Test Engineers

Economy mode
540 PTO rpm @1645 engine rpm

Power HP *(kW)*	Crank shaft speed rpm	Gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*
43.87 *(32.71)*	1645	2.71 *(10.26)*	0.434 *(0.264)*	16.21 *(3.19)*
32.94 *(24.56)*	1645	2.07 *(7.84)*	0.442 *(0.269)*	15.91 *(3.13)*
21.98 *(16.39)*	1646	1.57 *(5.96)*	0.504 *(0.307)*	13.96 *(2.75)*
11.00 *(8.20)*	1649	1.09 *(4.12)*	0.696 *(0.423)*	10.11 *(1.99)*
0.57 *(0.43)*	1645	0.68 *(2.56)*	8.329 *(5.066)*	0.84 *(0.17)*

Normal mode
540 PTO rpm @2100 engine rpm

Power HP *(kW)*	Crank shaft speed rpm	Gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*
83.03 *(61.91)*	2100	5.11 *(19.34)*	0.433 *(0.263)*	16.26 *(3.20)*
32.95 *(24.57)*	2101	2.59 *(9.79)*	0.552 *(0.336)*	12.75 *(2.51)*
22.00 *(16.41)*	2105	2.07 *(7.84)*	0.662 *(0.402)*	10.64 *(2.10)*
10.98 *(8.19)*	2103	1.53 *(5.78)*	0.978 *(0.595)*	7.20 *(1.42)*
0.58 *(0.43)*	2099	1.09 *(4.14)*	13.180 *(8.017)*	0.53 *(0.11)*

JOHN DEERE 5095M DIESEL

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